



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,801	08/29/2001	Yoshiro Yamaguchi	110491	4697
25944	7590	11/01/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			DINH, DUC Q	
			ART UNIT	PAPER NUMBER
			2674	

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/940,801

Applicant(s)

YAMAGUCHI ET AL.

Examiner

DUC Q DINH

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/30/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is response to the Amendment filed on June 30, 2004. A Rejection based on the newly discovered art of Gordon, Hou and Comiskey is provided as following.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 8 recites the limitation "plural colors" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8, 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon, II et al. (U. S. Patent No. 6,271,823), hereinafter Gordon, in view of Hou et al. (U. S. Patent No. 6,113,810), hereinafter Hou.

In reference to claim 1, Gordon discloses an image display device comprising: a light-transmissive window 2 (corresponding to the display substrate); a rear panel 4 (back substrate); electrode 20 on the window 2 (electrode formed on the display substrate); a wall 24 (spacer); filters (of plurality colors) 30, 32, 34 for transmitting light of a specific wavelength is formed on an opposite side of the window as claimed. Gordon does not disclose two kinds of particles

Art Unit: 2674

differing in color and charging polarity sealed between the display substrate and the back substrate. However the background arts of Gordon disclose a dispersion for reflective electrophoretic display comprised of two differently colored particles that are oppositely charged are well known. Hou discloses particles of two differently colored particles that are oppositely charged are used for electrophoretic display in Fig. 1.

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to provide of two differently colored particles that are oppositely charged of Hou in the display of Gordon particles for providing a highly contrast images.

In reference to claim 2, Hou discloses the two particles are white and black as claimed.

In reference to claims 3-4, Hou discloses the particles white electrophoretic particles 22 and black electrophoretic particles 24 may be formed from crosslinked polymer particles using a two stage dispersion polymerization technique with and without staining with a metal oxide, respectively. Since the surface functionalities of the electrophoretic particles can be well controlled during the polymerization, the black and white particles can be made with acidic and basic (or basic and acidic) surface characteristics, respectively and can be charged negatively and positively (or positively and negatively) [col.3, lines 45-55].

In reference to claim 5, Gordon discloses in Fig. 1 the substrate and the filter are integrated.

In reference to claim 6, Gordon discloses the color filter medium can, for example, be a light-transmissive colored filter element, a colored light-reflecting panel, or the pigment suspension fluid itself can be colored and serve as the color filter medium (col.3, lines 35-40).

Art Unit: 2674

In reference to claim 7, Gordon discloses the filter is divided into 3 regions for red, green, and blue colors.

In reference to claim 8, Gordon discloses the color filter is arranged in stripes

In reference in claim 10, Gordon discloses the color filter medium selects the color reflected by each cell. The color filter medium can, for example, be a light-transmissive colored filter element disposed across the horizontal area of the cell, either above the suspension or below the suspension on top of the light-reflecting panel. An appropriately colored pigment suspension fluid, a colored light-reflecting panel, a color diffuser, or a painted surface can also serve as the color filter medium (col. 8, lines 8-18).

In reference to claim 11, Gordon discloses the barrier 22 as achromatic region between filters.

In reference to claim 12, Gordon discloses the wall 24 as claimed.

In reference to claim 13, Gordon discloses electrodes 8 and 20 as claimed.

6. Claims 14-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon and Hou and further in view of Comiskey (U. S. Patent No. 6,376,828).

In reference to claims 14 and 15, Gordon and Hou do not disclose the irradiating for the display. Comiskey disclose and front light for an electrophoretic display for emitting white light to the inside of the display medium for the display substrate side of the image display medium (see Fig. 1).

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to provide the light source of Comiskey in the device of Gordon and Hou for illuminating the display when ambient light decreases (col. 8, lines 15-20).

In reference to claims 16-18, refer to the rejection as applied to claims 14-15. In addition, Comiskey discloses the light transmissive element 8 may comprise additional elements to enhance the versatility of the illuminated nonemissive electronic display 1. In one embodiment of the invention, shown in FIG. 1, a light polarizing film 16 (spectral means) is provided adjacent first surface 8a to increase the uniformity of light passing through the second face 8b and reaching the viewer 20. In another embodiment of the invention, a red/green/blue absorptive filter (not shown) is provided adjacent the first face 8a or second face 8b of the light transmissive element 8 to alter the wavelength of light passing through the first face 8a or second face 8b thereby creating a colored display (col. 6, line 62 – col. 7, line 6).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon and Hou and further in view of Shirochi (U. S. Patent No. 5,872,654)

In reference to claim 9, Gordon and Hou do not disclose the filter is on of the matrix mosaic type. Shirochi discloses color filters corresponding to three primary colors are placed relative to each pixel and the same color pixels are arranged having the mosaic type as claimed.

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to learn the teaching of Shirochi, i.e., color filters corresponding to three primary colors are placed relative to each pixel and the same color pixels are arranged having the mosaic

Art Unit: 2674

pattern for providing a display device in which the diffusion for more than three pixels can be easily obtained (col. 2, lines 34-37).

Response to Arguments

1. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DUC Q DINH** whose telephone number is **(703) 306-5412**. The examiner can normally be reached on Mon-Fri from 8:00.AM-4:00.PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive,
Arlington, Va Sixth Floor (Receptionist)

Art Unit: 2674

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


DUC Q DINH

Examiner

Art Unit 2674

DQD

October 30, 2004


REGINA LIANG
PRIMARY EXAMINER